Metadata for Fort Laramie National Historic Site, Spatial Vegetation Data: Cover type / Association level of the National Vegetation Classification System

Identification_Information:
Citation:
Citation_Information:
Originator: U.S. Geological Survey Department of Interior
Publication_Date: 19980310
Title:
Fort Laramie National Historic Site Spatial Vegetation Data; Cover Type / Association level of the National Vegetation Classification System
Geospatial_Data_Presentation_Form: map
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Fort Laramie National Historic Site
Publication_Information:
Publication_Place: Denver CO
Publisher: USGS, Biological Resources Division, Center for Biological Informatics
Other_Citation_Details: Created under contract to the USGS-BRD-CBI
Online_Linkage: http://biology.usgs.gov/npsveg/fola/index.html#geospatial_veg_info
Description:
Abstract:
The National Park Service (NPS), in conjunction with the Biological Resources Division (BRD) of the U.S. Geological Survey (USGS), has implemented a program to "develop a uniform hierarchical vegetation methodology" at a national level. The program will also create a geographic information system (GIS) database for the parks under its management. The purpose of the data is to document the state of vegetation within the NPS service area during the 1990's, thereby providing a baseline study for further analysis at the Regional or Service-wide level. The vegetation units of this map were determined through stereoscopic interpretation of aerial photographs supported by field sampling and ecological analysis. The vegetation boundaries were identified on the photographs by means of the photographic signatures and collateral information on slope, hydrology, geography, and vegetation in accordance with the Standardized National Vegetation Classification System (October 1995). The mapped vegetation reflects conditions that existed during the specific year and season that the aerial photographs were taken (July, 1995). There is an inherent margin of error in the use of aerial photography for vegetation delineation and classification.
Purpose:
The purpose of this spatial data is to provide the National Park Service the necessary tools to manage the natural resources within this park system. Several parks, representing different regions, environmental conditions, and vegetation types, were chosen by BRD to be part of the prototype phase of the program. The initial goal of the prototype phase is to "develop, test, refine, and finalize the standards and protocols" to be used during the production phase of the project. This includes the development of a standardized vegetation classification system for each park and the establishment of photointerpretation, field, and accuracy

assessment procedures. Fort Laramie National Historic Site was designated as one of the prototype parks. The monument is located in the high Great Plains. It contains prairie, hill, and riverine environments, with vegetation types that include upland woodland, prairie grassland, riverine woodland, and wetlands.

Supplemental_Information:
Fort Laramie National Historic Site was created by the National Park Service on July 16, 1938. The park occupies 833 acres of land on the Laramie River, west of its confluence with the North Platte River in western Wyoming. Bureau of Land Management land south of the park (referred to as Plot 3) and northwest of the park (referred to as Plots 1 and 5) are also within the mapping study area. The park is primarily preserved as an historic site. The fort site was occupied first as a fur trading center, then subsequently as a military outpost. It further served as a way station for trappers, traders, and emigrants on the Oregon Trail. The old fort site, located in the western end of the park, contains a complex of restored buildings and ruins, dating from mid and late 19th century, surrounding a lawn quadrangle. The remainder of the park contains disturbed prairie and floodplains. The park itself lies mainly on the floodplain terrace of the Laramie River, with a portion on the North Platte River floodplain terrace just west of their confluence. A small portion of the northwest corner of the park lies above the terrace. Plot 3 lies directly south of the park, across the Fort Laramie Canal. It is an area of rolling hills. Plots 1 and 5 lie 1/4 mile northwest of the park, also in rolling hills. The park is surrounded by rolling hills that are used for grazing and some agricultural cultivation. The city of Fort Laramie is located 3 miles to the northeast of the park.

Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19950715
Currentness_Reference: Source photography date

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Planned

Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -104.5729
East_Bounding_Coordinate: -104.5269
North_Bounding_Coordinate: 42.225
South_Bounding_Coordinate: 41.18889
Description_of_Geographic_Extent: Fort Laramie National Historic Site and selected environs.

Keywords:
Theme:
Theme_Keyword_Thesaurus: none
Theme_Keyword: National Park Service
Theme_Keyword: U.S. Geological Service
Theme_Keyword: The Nature Conservancy
Theme_Keyword: Aerial Information Systems
Theme_Keyword: Center for Biological Informatics
Theme_Keyword: land cover
Theme_Keyword: vegetation
Theme_Keyword: alliance
Theme_Keyword: association
Theme_Keyword: land use

Theme_Keyword: Environmental System Research Institute
Place:
Place_Keyword_Thesaurus: none
Place_Keyword: Fort Laramie National Historic Site
Place_Keyword: Wyoming
Taxonomy:
Keywords/Taxon:
Taxonomic_Keyword_Thesaurus: none
Taxonomic_Keywords: plant communities
Taxonomic_Classification:
Taxon_Rank_Name: Kingdom
Taxon_Rank_Value: Plantae
Access_Constraints: None
Use_Constraints:
No warranty, expressed or implied, is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes. Any person using the information presented here should fully understand the data collection and compilation procedures, as described in these metadata, before beginning analysis. The burden for determining fitness for use lies entirely with the user. For purposes of publication or dissemination, citations should be given to the U.S. Geological Survey and the National Park Service.
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization:
USGS Biological Resources Division, Center for Biological Informatics
Contact_Address:
Address_Type: Physical Address
Address: USGS
Address: Biological Resources Division, CBI
Address: Building 810, Room 8000
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Address:
Address_Type: Mailing Address
Address: USGS
Address: Biological Resources Division, CBI
Address: PO BOX 25046, DFC, MS302
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Browse_Graphic:
Browse_Graphic_File_Name: http://biology.usgs.gov/npsveg/fola/images/folaveg.jpg
Browse_Graphic_File_Description: 299 Kbyte, vegetation distribution of Fort Laramie National Historic Site and environs; low resolution for web browser.
Browse_Graphic_File_Type: JPG
Data_Set_Credit: USGS, NPS, ESRI, TNC

Native_Data_Set_Environment: UNIX-ARC/INFO

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
These data have a combined total accuracy of 82.0% (confidence interval 70% - 100%). Individual class accuracies range from 70% to 100% in both errors of commission and omission.
Logical_Consistency_Report:
All polygon features are checked for topology using the ARC/INFO software. Each polygon begins and ends at the same point with the node feature. All nodes are checked for error so that there are no dangling features. There are no duplictae lines or polygons. All nodes will snap together and close polygons based on a specific tolerance. If the node is not within the tolerance, it is adjusted manually. The test for logical consistency are performed in ARC/INFO.
Completeness_Report:
All data that can be photointerpreted is also digitized. This includes alliance/association classes, surface water, and unvegetated/landuse.
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Unknown. The positional accuracy of the base digital ortho image is not known. It is assumed the map meets National Map Accuracy Standards.
Vertical_Positional_Accuracy:
Vertical_Positional_Accuracy_Report:
Unknown. The positional accuracy of the base digital ortho image is not known. It is assumed the map meets National Map Accuracy Standards.
Lineage:
Methodology:
Methodology_Type: Field
Methodology_Identifier:
Methodology_Keyword_Thesaurus: none
Methodology_Keyword: field plots
Methodology_Description:
Developmental of Programmatic and Technical Team:
This project required the combined expertise and oversight of several organizations. Oversight and programmatic considerations are managed by the Center for Biological Informatics of the Biological Resources Division of the U.S. Geological Survey. The National Park Service provided additional guidance. The technical responsibilities for the mapping effort were divided between TNC and AIS. TNC responsibilities and deliverables included the following: Create a vegetation classification system based upon field species level data and consistent with the Standard National Classification System at the Alliance or Community Element level Provide documentation that describes the national classes at the local and global levels, with field keys, and field data in a *.dbf format. Provide technical opinion to BOR as the mapping portion of the project proceeds. Provide field notes and site descriptions BOR responsibilities and deliverables included the following: Digital files of vegetation on Compact (CD); including topology and labeling for height, density, and pattern subclasses; location of field sample sites; and locations of sites used for accuracy assessment in Arc/Info format Any ancillary digital files developed during the mapping process Digital FGDC compliant metadata file for each digital file delivered Annotated

field site photographs Original mylar overlays of interpreted photographs Hard copy vegetation map Accuracy assessment Final report describing all procedures used in developing the final map and accuracy assessment Planning and Review Meeting An initial meeting was held with all interested parties to discuss several aspects of the mapping effort. Foremost among these was the mapping extent. Vegetation issues particular to the park were addressed. Preliminary Data Collection and Review of Existing Information To reduce duplicating previous work and to help in our effort we collected existing vegetation reports and maps from the staff at Fort Laramie National Historic Site. These materials were referenced during the mapping process and the information contained in them was incorporated where it was deemed useful. Because soils also affect the distribution of vegetation, soil maps and soil descriptions were also obtained as reference. These were not converted to a digital file. Digital elevation models (DEM) were obtained to create slope and aspect maps that helped in determining vegetation community distribution. Vegetation Sampling The sampling approach used in this mapping effort was typical of small park sampling, where all polygons within the park boundary are sampled. Two levels of field data gathering were conducted in this park; plots and observations. Plots represented the most intensive sampling of the landscape and used TNC's 'Plot Form'. Observations consisted of brief descriptions and were designed to obtain a quick overview of the landscape without spending a large amount of time at each sample site. Observation points used the 'Observation Form' data sheet. Examples of both 'Plot' and 'Observation' forms are included in the companion report by TNC. Initially, plots were used to describe the vegetation of the park. A total of 49 plots were obtained from July through August 1996. These plots were used by TNC to describe the vegetation associations found within the park. These descriptions are in the companion report by TNC. Map Validation A field trip was conducted in July of 1997 to assess the initial mapping effort and to refine map class.

Methodology_Citation:
Citation_Information:
Originator: Aerial Information Systems (AIS)
Publication_Date: Unpublished Material
Title: Fort Laramie National Historic Site, Wyoming BRD/NPS Vegetation and Inventory and Mapping Program
Edition: Version 1
Geospatial_Data_Presentation_Form: Report
Series_Information:
Series_Name: Unknown
Issue_Identification: Unknown
Publication_Information:
Publication_Place: Unknown
Publisher: Ed Reyes
Other_Citation_Details: Unknown

Source_Information:
Source_Citation:
Citation_Information:
Originator: Kenny Aerial Mapping Company, Phoenix, AZ
Publication_Date: 19950912
Title: Fort Laramie National Historic Site CIR Aerial Photography
Edition: Version 1
Geospatial_Data_Presentation_Form: CIR Photo
Series_Information:
Series_Name: Unknown

Issue_Identification: Unknown
Publication_Information:
Publication_Place: Phoenix, AZ
Publisher: Kenney Aerial Mapping for USGS
Other_Citation_Details:
The aerial photography is CIR 1:6000 scale. The camera calibration report is USGS report Number OSL/2066 dated January 12, 1995
Online_Linkage: http://biology.usgs.gov/npsveg/fola/photos.html
Source_Scale_Denominator: 12000
Type_of_Source_Media: CIR Photography and Natural Color
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19950912
Source_Currentness_Reference: Ground Condition:
Source_Citation_Abbreviation: KAM
Source_Contribution: None
Source_Information:
Source_Citation:
Citation_Information:
Originator: Uknown
Publication_Date: 1998
Title: Digital Orthophotograph of Fort Laramie National Historic Site
Geospatial_Data_Presentation_Form: Remote-Sensing Image
Publication_Information:
Publication_Place: Unknown
Publisher: Unknown
Other_Citation_Details: The digital orthophotograph is a 1:2400 scale image.
Source_Scale_Denominator: 2400
Type_of_Source_Media: Electronic Mail System
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Source_Currentness_Reference: Imagery date
Source_Citation_Abbreviation: fola orthophoto
Source_Contribution: This digital orthophoto provided the project basemap
Source_Information:
Source_Citation:
Citation_Information:
Originator: USGSBRD, Center for Biological Informatics
Publication_Date: 19971215
Title: Vegetation Sampling and Classification Report
Geospatial_Data_Presentation_Form: report
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Fort Laramie National Historic Site
Publication_Information:
Publication_Place: Denver, CO
Publisher: USGS/BRD, Center for Biological Informatics
Other_Citation_Details:
This report was generated by The Nature Conservancy under contract to the USGS/BRD, Center for Biological Informatics
Online_Linkage: http://biology.usgs.gov/npsveg/fola/methods.pdf
Type_of_Source_Media: digital
Source_Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19971215
Source_Currentness_Reference: Ground Condition
Source_Citation_Abbreviation: fola field data
Source_Contribution:
This document provides the Field Key, and Vegetation categories used in the mapping process.
Source_Information:
Source_Citation:
Citation_Information:
Originator: USGS/BRD, Center for Biological Informatics
Publication_Date: 199411
Title: Accuracy Assessment Procedures, NBS/NPS Vegetation Mapping Program
Geospatial_Data_Presentation_Form: report
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Fort Laramie National Historic Site
Publication_Information:
Publication_Place: Denver, CO
Publisher: USGS/BRD, Center for Biological Informatics
Other_Citation_Details:
This report was prepared by Environmental Systems Research Institute; Redlands, CA, National Center for Geographic Information and Analysis, University of California, Santa Barbara, CA and The Nature Conservancy, Arlington, VA under contract from the U.S. Department of Interior National Biological Survey and National Park Service.
Online_Linkage: http://biology.usgs.gov/npsveg/aa/aa.html
Type_of_Source_Media: electronic document
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 199411
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: Accuracy Assessment Procedures Documents
Source_Contribution: This document established the procedures and protocols for the accuracy assessment at Fort Laramie National Historic Site.
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. Geological Survey
Originator: Department of the Interior
Publication_Date: 19980904
Title:
Fort Laramie National Historic Site Photo Interpretation and Map Generation Procedures
Geospatial_Data_Presentation_Form: report
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Fort Laramie National Historic Site
Publication_Information:
Publication_Place: Denver, CO
Publisher:
USGS, Biological Resources Division, Center for Biological Informatics
Other_Citation_Details:
Created in large part by Aerial Information Systems, Inc. under contract rom USGS/BRD/CBI.
Online_Linkage: http://biology.usgs.gov/npsveg/fola/pi_rpt.pdf
Type_of_Source_Media: digital

Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19980904
Source_Currentness_Reference: Report date
Source_Citation_Abbreviation: fola mapping report
Source_Contribution:
Photo interpretation was done by trained interpreters familiar with the vegetation communities of the Site on overlays registered to the aerial photographs under a stereoscope. Vegetation communities were idendified on the basis of their color, pattern, texture, and location on the landscape and lines were drawn around the communities. The photo interpreters had visited the monument and conferred with the ecologists who performed the vegetation classification and were familiar with the vegetation communities. Not all vegetation associations could be identified on the photography due to size constraints and complexity of the vegetation. Map classes were assigned in these cases and a cross-walk was made to the vegetation classification
Process_Step:
Process_Description:
Air Photo Interpretation All map classes were interpreted from existing 1:12,000 scale, color photography taken on July 25, 1995. The photographs were acquired from the U.S. Forest Service (USFS). Photointerpretation used the standard identification features such as tone, texture, color, pattern, topographic position, and shadow. In addition, field sample locations and their vegetation descriptions aided in assigning map class to each polygon. All photographs were examined using a stereoscope. Digital elevation models (DEM's) were processed and converted to slope and aspect coverages. These helped to provide additional perspectives of the landscape. Seven photographs were interpreted for the entire mapping area. Digital scans of these photographs are included as .tif files on the CD included with this report.
Source_Used_Citation_Abbreviation: AIS
Process_Date: 19980601
Source_Produced_Citation_Abbreviation: AIS
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: Bureau of Reclamations
Contact_Address:
Address_Type: Physical Address
City: Redlands
State_or_Province: CA
Postal_Code: Unknown
Country: USA
Contact_Voice_Telephone: Unknown
Process_Step:
Process_Description:
In conjunction with the photoverification and field sampling effort, NBS (now USGS, BRD, CBI) personnel performed a locational accuracy test comparing the accuracy of a global positioning system (GPS) versus manual location techniques. The TNC biologist "pin-pricked" all of the sample site locations onto the aerial photos while the NBS staff captured the location using GPS. The "pin-pricked" locations were subsequently input into the GIS database for comparison against the GPS locations for the same site.
Source_Used_Citation_Abbreviation: fola CIR Aerial Photography

Process_Date: 199510
Source_Produced_Citation_Abbreviation:
Analysis of Accuracy Assessment Procedures at Fort Laramie National Historic Site
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization:
USGS Biological Resources Division, Center for Biological Informatics
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: Mailing Address
Address: USGS
Address: Biological Resources Division, Center for Biological Informatics
Address: PO Box 25046 DFC, MS302
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov

Spatial_Data_Organization_Information:
Indirect_Spatial_Reference:
Fort Laramie National Historic Site is located in Gossen County, Wyoming.
The Historic Site is 2 miles south of Fort Laramie, Wyoming.
Direct_Spatial_Reference_Method: Point
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Point

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 13
Transverse_Mercator:
Longitude_of_Central_Meridian: -105
Latitude_of_Projection_Origin: 0
False_Easting: 50000
False_Northing: 0
Scale_Factor_at_Central_Meridian: .9996
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 1
Ordinate_Resolution: 1
Planar_Distance_Units: meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodedic Reference System 80
Semi-major_Axis: 6378137
Denominator_of_Flattening_Ratio: 298.257

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
The system is organized hierarchically to support conservation and resource stewardship applications across multiple scales. The upper levels of the hierarchicy are based on the physical form or structure of the vegetation (physiognomy) and have been refined from the international standards developed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The two most detailed levels of the hierearchy are based on the species composition of the existing vegetation (floristics) and reflect the phyto-sociological standards that were originally developed by European ecologists. The vegetation classification is continually advanced through the collection and analysis of new field data and will be greatly strengthened during the course of the NBS/NPS mapping efforts. National Park Service/Biological Resources Division Vegetation Inventory and Mapping Program for Fort Laramie National Historic Site, Wyoming, Final Community Association Classification, September 4, 1998. Alliance/Community 01=Populus Deltoides Temporarily Flooded Woodland Alliance Populus deltoides / Symphoricarpos occidentalis Woodland 02=Pinus Ponderosa Wooded Medium-Tall Herbaceous Alliance Pinus ponderosa - Schizachyrium scoparium Wooded Herbaceous Vegetation 03=Not Used 04=Salix Exigua Temporarily Flooded Shrubland Alliance Salix exigua Shrubland 05=Stipa Comata Bunch Herbaceous Alliance Stipa comata - Yucca glauca Herbaceous Vegetation 06=Typha (Angustifolia, Latifolia) - (Scirpus spp.) Semipermanently Flooded Herbaceous Alliance Typha latifolia Western Herbaceous Vegetation 07=Spartina Pectinata Temporarily Flooded Herbaceous Alliance Spartina pectinata - Scirpus pungens Herbaceous Vegetation 08=Carex Nebrascensis Seasonally Flooded Herbaceous Alliance Carex nebrascencis Herbaceous Vegetation 09=Alliance Undefined Bromus inermis Disturbed Herbaceous Vegetation 10=Alliance Undefined Upland Weedy Herbaceous Vegetation 11=Pascopyrum Smithii Herbaceous Alliance Pascopyrum smithii Herbaceous Vegetation 12=Stipa Comata - Bouteloua Gracilis Herbaceous Alliance Stipa comata - Bouteloua gracilis - Carex filifolia Herbaceous Vegetation 13=Alliance Undefined Sporobolus cryptandrus Disturbed Herbaceous Vegetation 14=Sand Flats Temporarily Flooded Sparse Vegetation Riverine Sand Flats - Bar Sparse Vegetation 15=Alliance Undefined Upland Sand and Gravel Sparse Vegetation 16=Bouteloua Gracilis Herbaceous Alliance Bouteloua gracilis - Carex filifolia Herbaceous Vegetation 17=Rock Outcrop / Butte Sparse Vegetation Sandstone Rock Outcrop Sparse Vegetation 98 =Water Body 99=Urban/Built-Up/Maintained Lawn/Canal/Road/Mowed Road ROW/Cut and Fill HEIGHT 1=<0.5 meters 2=0.5 - 2 meters 3=2 - 5 meters 4=5 - 15 meters 5=15 - 35 meters 6=35 - 50 meters 7=>50 meters 9=Not Applicable ABSOLUTE CROWN DENSITY 1 = Closed/Continuous > 60 % 2 = Discontinuous 40% - 60% 3 = Dispersed 25% - 40% 4 = Sparse 10% - 25% 5 = Rare 2% - 10% 9 = Not Applicable PATTERN 1 = Evenly Dispersed 2 = Clumped/Bunched 3 = Gradational/Transitional 4 = Alternating 9 = Not Applicable LAND USE 100=Urban or Built-Up 110=Residential 120=Commercial 130=Industrial 140=Transportation, Communication, and Utilities 141=Canal, Canal Water, Maintained Right-of-Way, Canal Access Road, Adjacent Disturbed and Maintained Area, Levee, Cut and Fill 150=Mixed Commercial and Industrial 160=Mixed Urban 170=Under Construction 180=Open Space and Recreation 181=Oregon Trail Ruts Parking Area (Plot 1) 190=Vacant within Urban Context 200=Agriculture 300=Mining 400=National Park/Monument Facilities 401=Fort Laramie Site Area, Visitor Center, Ruins, Parking Area, Parade Grounds and Associated Facilities 402=Visitor Picnic Area 403=Road/Maintained Right-of-Way 404=Maintenance Area 405=Old North Platte

River Bridge Parking Area 500=Water Body 600=Vacant Fort Laramie National Historic Site Alliance/Community Association Photo Signature Key - Table Descriptions The Final Alliance/Community Association Photo Signature Key is divided into six categories. The column descriptions are as follows: Column 1 - ALLIANCE/COMMUNITY ASSOCIATION CODE This column contains the code in the database representing the alliance/community association category. Column 2 - ALLIANCE/COMMUNITY ASSOCIATION This column contains the title of the alliance/community association category. Alliance name is listed above the community association name. Column 3 - PHOTO SIGNATURE This column describes the photo signatures that characterize the life form of the alliance/community association in this park. The following subcategories are included: Color: Describes the color tone and contrast variations of the photo signature. Texture: Describes the relative apparent roughness or smoothness of the signature character. Coarse being a very rough or grainy texture, fine being a very smooth texture. A forest of trees tends to have a coarse texture. Grasslands tend to have a fine texture. Crown Size: Describes the relative size of the tree or shrub crown diameter as viewed on the aerial photo. Typically, spreading trees tend to have large crowns while shrubs tend to have smaller crowns. Crown Shape: Describes the relative shape of the tree or shrub crown as viewed on the aerial photo. Density: Describes the general density characteristic of the alliance/community association. Column 4 - HEIGHT This column describes the relative height range of the life form of the alliance/community association. Column 5 - CONTEXT This column describes the general occurrence of the alliance/community association within the park from a geomorphological, physiographic, topographical, or regional perspective. Column 6 - NOTES This column includes other pertinent information that may be useful in the photointerpretation of the alliance/community association. It may contain examples of occurrences or character of the vegetation within the park. Final Alliance/Community Association Photo Signature Key ALLIANCE/COMMUNITY ASSOCIATION CODE: 01 ALLIANCE/COMMUNITY ASSOCIATION: Populus deltoides / Symphoricarpos occidentalis Woodland PHOTOSIGNATURE: Color-Tall to short crowns of medium to dark green dots, with shorter dark green to medium green dots, in matrix of medium green to brown Texture-Coarse Crown Size-Large Crown Shape-Round Density- Moderate to high HEIGHT (meters): <6 - 50 CONTEXT: Middle and lower floodplain terrace. NOTES: Grass or shrub understory; occurs in rows, large groups, small clumps, or isolated individuals; some sapling or young trees groups also occur ALLIANCE/COMMUNITY ASSOCIATION CODE: 02 ALLIANCE/COMMUNITY ASSOCIATION: Pinus ponderosa / Schizachyrium scoparium Wooded Herbaceous Vegetation PHOTOSIGNATURE: Color-Dark green dots in white to gray green matrix Texture- Coarse Crown Size- Large Crown Shape- Large Density- Low HEIGHT (meters): <5-8 meters height CONTEXT: Rocky escarpment of northern hills, canyons of southern hills NOTES: Occurrences in northern hills have sparse understory, those in southern hills have denser, less rocky understory ALLIANCE/COMMUNITY ASSOCIATION CODE: 04 ALLIANCE/COMMUNITY ASSOCIATION: Salix exigua Shrubland PHOTOSIGNATURE: Color-Blue green, gray green, to medium green Texture-Moderate Crown Size-Small Crown Shape-Round Density-Moderate to high HEIGHT (meters): <3 CONTEXT: Lower floodplain terrace, seepage area NOTES: Short on sandbars and by river, taller in seepage area ALLIANCE/COMMUNITY ASSOCIATION CODE: 05 ALLIANCE/COMMUNITY ASSOCIATION: Stipa comata - Yucca glauca Herbaceous Vegetation PHOTOSIGNATURE: Color-Gray green matrix with medium green to gray green dots Texture- Smooth, fine, with moderate dots Crown Size- Dots are small Crown Shape- Dots are round Density- Moderate to high, dot density varies HEIGHT (meters): <2

CONTEXT: Northern and southern hill areas NOTES: Densities of shrubs vary greatly; shrubs denser in southern hill area ALLIANCE/COMMUNITY ASSOCIATION CODE: 06 ALLIANCE/COMMUNITY ASSOCIATION: Typha latifolia Western Herbaceous Vegetation PHOTOSIGNATURE: Color- White, gray, dark green, or black, some slight mottling Texture- Smooth, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <3 CONTEXT: Very wet, standing water, well saturated ground NOTES: Narrow band occurrences at edge of river are below mmu ALLIANCE/COMMUNITY ASSOCIATION CODE: 07 ALLIANCE/COMMUNITY ASSOCIATION: Spartina pectinata - Scirpus pungens Herbaceous Vegetation PHOTOSIGNATURE: Color- Deep medium green Texture- Smooth, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <2 CONTEXT: Lower floodplain, margins of river, and sandbars NOTES: Usually very narrow bands; sometimes in understory of trees ALLIANCE/COMMUNITY ASSOCIATION CODE: 08 ALLIANCE/COMMUNITY ASSOCIATION: Carex nebrascensis Herbaceous Vegetation PHOTOSIGNATURE: Color- A) Deep medium green; B) Medium to dark green clumps in a matrix of light green to medium green Texture- Smooth, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <1.5 CONTEXT: Lower floodplain terrace NOTES: Primarily located in the seepage area ALLIANCE/COMMUNITY ASSOCIATION CODE: 09 ALLIANCE/COMMUNITY ASSOCIATION: Bromus inermis Disturbed Herbaceous vegetation PHOTOSIGNATURE: Color- Very dark green, to dark green with light irridescent white tinge Texture- Smooth, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <1 CONTEXT: Upper floodplain terrace north of Laramie River, middle floodplain terrace NOTES: Sometimes occurs in understory of trees ALLIANCE/COMMUNITY ASSOCIATION CODE: 10 ALLIANCE/COMMUNITY ASSOCIATION: Upland Weedy Herbaceous Vegetation PHOTOSIGNATURE: Color-A) Light yellow brown to dark yellow brown to rust; B) Dark to medium green dots Texture- Smooth, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <2 CONTEXT: Upper floodplain terrace, valley bottom NOTES: Dark green dots on upper floodplain are weedy forbs ALLIANCE/COMMUNITY ASSOCIATION CODE: 11 ALLIANCE/COMMUNITY ASSOCIATION: Pascopyrum smithii Herbaceous Vegetation PHOTOSIGNATURE: Color- A) Homogeneous medium to dark green, some yellow brown; B) Tan to light green to medium green to brown; C) Dark green with yellow brown mixed; D) Medium to light blue green Texture- Smooth, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <1.5 CONTEXT: Middle to lower floodplain terrace, seepage area, disturbed seeded old field area NOTES: Natural and artificial occurrences; sometimes as understory of trees ALLIANCE/COMMUNITY ASSOCIATION CODE: 12 ALLIANCE/COMMUNITY ASSOCIATION: Stipa comata - Bouteloua gracilis / Carex filifolia Herbaceous Vegetation PHOTOSIGNATURE: Color-: A) Gray green to tan green, sometimes with medium green or green dots scattered in varying densities; B) Homogeneous deep medium green to medium green; C) Dark olive green to dull tan green, sometimes with gray green dots; C) Medium light brown with medium green tinging mixing Texture- Smooth, fine Crown Size- None, or dots are small to moderate Crown Shape- None, or dots are small to moderate Density- High HEIGHT (meters): <1 CONTEXT: Northern and southern hills, valley bottom, and upper to middle floodplain terrace NOTES: Primarily in the valley bottom and hill areas and rises of the floodplain area ALLIANCE/COMMUNITY ASSOCIATION CODE: 13 ALLIANCE/COMMUNITY ASSOCIATION: Sporobolus cryptandrus Disturbed Herbaceous Vegetation PHOTOSIGNATURE: Color- Medium green to yellow green, tan with green-yellow tinge Texture- Smooth, velvety, fine Crown Size- None Crown Shape- None Density- High HEIGHT (meters): <1 CONTEXT: Upper to middle floodplain terrace NOTES: Disturbed ALLIANCE/COMMUNITY ASSOCIATION CODE: 14 ALLIANCE/COMMUNITY ASSOCIATION: Riverine Sand Flats - Bar Sparse

Vegetation PHOTOSIGNATURE: Color- White to gray or gray brown Texture- Smooth, fine, dots are moderate Crown Size- None Crown Shape- None Density- None HEIGHT (meters): <.5 CONTEXT: Floodplain sandbars, lower floodplain terrace, dry to moist NOTES: Rare density of vegetation ALLIANCE/COMMUNITY ASSOCIATION CODE: 15 ALLIANCE/COMMUNITY ASSOCIATION: Upland Sand and Gravel Sparse Vegetation PHOTOSIGNATURE: Color- A) Light gray to dark gray to brown gray, B) Brown to yellow brown to white, with green dots Texture- Smooth, fine, dots are moderate Crown Size- None Crown Shape- None Density- Low to Moderate HEIGHT (meters): <1 CONTEXT: Middle floodplain terrace, very dry NOTES: Scattered occurrences on middle floodplain ALLIANCE/COMMUNITY ASSOCIATION CODE: 16 ALLIANCE/COMMUNITY ASSOCIATION: Bouteloua gracilis - Carex filifolia Herbaceous Vegetation PHOTOSIGNATURE: Color- Very homogeneous light gray Texture- Smooth, fine Crown Size- None Crown Shape- None Density- Very low HEIGHT (meters): <1 CONTEXT: Ridgetops of the northern and southern hills NOTES: Mainly occurs on BLM Plot 5, with a few in BLM Plots 3 and 1 ALLIANCE/COMMUNITY ASSOCIATION CODE: 17 ALLIANCE/COMMUNITY ASSOCIATION: Sandstone Rock Outcrop Sparse Vegetation PHOTOSIGNATURE: Color- White, sometimes with widely scattered green dots or gray green to tan tinge Texture- Rough Crown Size- None Crown Shape- None Density- None HEIGHT (meters): NA CONTEXT: Rocky escarpment NOTES: Only occurrence is in BLM Plot 1 in northern hills

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